

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth below in marked-up form. This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-23. (Canceled)

24. (Currently Amended) A triple lumen vascular access catheter for percutaneous entry into a blood vessel of the cardiovascular system of a patient by way of advancement along an insertion guide wire, the triple lumen vascular access catheter comprising:

an outer tube having a proximal end and a distal end;

an inner tube having a proximal end and a distal end and defining therewithin a first lumen, saidthe inner tube having an outer diameter less than an inner diameter of saidthe outer tube, saidthe inner tube being disposed within saidthe outer tube to define an interior space between the outer diameter of saidthe inner tube and an inner diameter of saidthe outer tube, wherein an inner diameter of saidthe inner tube is sized for accommodating an insertion guide wire having an outer diameter from about 0.036 inches to about 0.038 inches;

a first septum extending from the outer diameter of saidthe inner tube to the inner diameter of saidthe outer tube;

a second septum extending from the outer diameter of saidthe inner tube to the inner diameter of saidthe outer tube,

wherein the first septum and saidthe second septum separate—divide saidthe interior space into a second lumen located on one side of a transverse cross section of

the first septum, saidthe inner tube, and saidthe second septum, and a third lumen located on an opposite side of the transverse cross section of the first septum, saidthe inner tube, and saidthe second septum;

wherein the entire interior space defined by the outside diameter of the inner tube and the inner diameter of the outer tube is divided only by the first septum and the second septum;

a tapered distal tip section at saidthe distal end of saidthe outer tube, wherein an outer surface of saidthe distal tip section tapers radially inwardly from saidthe distal end of saidthe outer tube and terminating terminates in a first aperture with which saidthe first lumen communicates;

a second aperture formed through saidthe outer tube proximate saidthe distal end thereof, communicating with the second lumen; and

a third aperture formed through saidthe outer tube proximate saidthe distal end thereof, communicating with the third lumen.

25. (Currently Amended) A catheter as recited in Claim 24, wherein the inner diameter of saidthe inner tube is about 0.04 inches.

26. (Currently Amended) A catheter as recited in Claim 24, wherein the first septum extends a distance between ~~said~~the outer diameter of ~~said~~the inner tube and ~~said~~the inner diameter of ~~said~~the outer tube equal to a distance the second septum extends between ~~said~~the outer diameter of the inner tube and ~~said~~the inner diameter of ~~said~~the outer tube.

27. (Currently Amended) A catheter as recited in Claim 26, wherein ~~said~~the first septum and ~~said~~the second septum are coplanar.

28. (Currently Amended) A catheter as recited in Claim 26, wherein a transverse cross section of ~~said~~the second lumen is congruent with a transverse cross section of ~~said~~the third lumen.

29. (Currently Amended) A catheter as recited in Claim 28, wherein each of ~~said~~the second lumen and ~~said~~the third lumen have a C-shaped transverse cross section.

30. (Withdrawn) A catheter as recited in Claim 28, wherein each of ~~said~~the second lumen and ~~said~~the third lumen have a D-shaped transverse cross section.

Claims 31-41. (Canceled)

42. (Currently Amended) A triple lumen catheter for insertion into a patient by way of advancement along an insertion guide wire, ~~said~~the triple lumen catheter comprising:

a catheter body comprising:

an outer tube having a proximal end and a distal end;

an inner tube having a proximal end and a distal end and defining therewithin a first lumen, ~~said~~the inner tube having an outer diameter less than an inner diameter of ~~said~~the outer tube, ~~said~~the inner tube positioned within ~~said~~the outer tube to define an interior space between the outer diameter of ~~said~~the inner tube and the inner diameter of ~~said~~the outer tube;

a first septum extending between the outer diameter of ~~said~~the inner tube to the inner diameter of ~~said~~the outer tube; and

a second septum extending between the outer diameter of the inner tube and ~~said~~the inner diameter of the outer tube,

wherein the first septum and ~~said~~the second septum ~~separate~~divide the interior space into a second lumen located on one side of a transverse cross section of the first septum, ~~said~~the inner tube, and ~~said~~the second septum, and a third lumen located on an opposite side of the transverse cross section of the first septum, ~~said~~the inner tube, and ~~said~~the second septum;

wherein the entire interior space defined by the outside diameter of the inner tube and the inner diameter of the outer tube is divided only by the first septum and the second septum;

a frustoconical distal tip section extending from the distal end of saidthe outer tube, an outer surface of the frustoconical distal tip section tapering radially inwardly from saidthe distal end of saidthe outer tube toward saidthe inner tube and terminating in a first aperture at the apex of saidthe distal tip section, the first aperture in communication with the first lumen;

a plurality of second apertures formed through saidthe outer tube proximate saidthe distal end thereof in communication with the second lumen;

a plurality of third apertures formed through saidthe outer tube located further from saidthe distal end thereof than saidthe plurality of saidthe second apertures, the plurality of third apertures in communication with the third lumen; and

an access means attached to saidthe proximal end of saidthe outer tube and saidthe proximal end of saidthe inner tube for affording fluid communication individually with saidthe first lumen, saidthe second lumen, and saidthe third lumen.

43. (Withdrawn) The triple lumen catheter as recited in Claim 42, wherein saidthe access means comprises:

a connector attached to saidthe proximal end of saidthe outer tube and saidthe proximal end of saidthe inner tube;

a first access tube attached to saidthe connector and communicating therethrough with saidthe first lumen;

a second access tube attached to saidthe connector and communicating therethrough with saidthe second lumen; and

a third access tube attached to saidthe connector and communicating therethrough with saidthe third lumen.

44. (Withdrawn) The triple lumen catheter as recited in Claim 43, further comprising:

a cylindrical attachment fitting rotatably mounted on an exterior of saidthe connector; and

a pair of coplanar suture wings extending laterally from opposite sides of the cylindrical attachment fitting.

45. (Withdrawn) The triple lumen catheter as recited in Claim 43, wherein saidthe first access tube carries a closure clamp.

Claim 46-47 (Canceled)